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09/724,200	11/27/2000	Tadayuki Ishida	41211/DBP/K277	7882

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EXAMINER	
ABDULSELAM, ABBAS I	
ART UNIT	**PAPER NUMBER**
2674	18

DATE MAILED: 03/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 00/724,200	Applicant(s) TADAYUKI ISHIDA ET AL.	
	Examiner Abbas I Abdulselam	Art Unit 2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 2-4,6-10,12-14 and 16-27 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 2-4,6-10,12-14 and 16-27 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 12/29/03 have been fully considered but they are not persuasive.

Applicant argues that the cited reference in view of the amended claims does not teach "a touch curve generator, which multiplies a plurality of the velocity values by the correction coefficient to shift the touch curve thereby generating the new touch curve." However as shown in the art rejection below, Kitamura (USPN 5308917) teaches the process for regenerating a touch curve data under various touch setting points and calculation of the corresponding velocities. See col. 5, lines 15-43 and lines 50-65. Specifically, Kitamura teaches determination of velocity data value VELO and determination of the maximum velocity value, Vmax of the touch curve as shown in col. 5, lines 35-43. One skilled in the art would have known that simply dividing the velocity, VELO by the maximum velocity, Vmax is mathematically and functionally equivalent to the desired correction coefficient. Furthermore, Kitamura discloses that velocity values corresponding to all the touch curve data values (0 to 255) are stored in the curve memory (RAM), (40), and the velocity value stored in the RAM (40) is read out using touch curve data. See col. 5, lines 51-54. It would have been obvious that multiplying the velocity values that are read out from RAM (40) by (VELO/Vmax) would produce the same value as the touch curve generator, would shift the touch curve and generate the new touch curve.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-4, 6-10, 12-14, 16-21 and 23-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura et al. (USPN 5308917).

Regarding claims 2, 6, 12 and 16, Kitamura teaches a touch responsive setting apparatus including a keyboard (10) generating touch data (p), and a curve memory (40) storing curve data values with their corresponding velocity values. Kitamura teaches generation of touch curves with respect to various degrees of the strength of depressions. Furthermore, Kitamura teaches an interpolator (30) which interpolates the input touch data and form a response curve representing touch-tone level character. See col. 3, lines 1-12, col.5, lines 51-56, Fig 2, Fig (8-10). In addition, Kitamura teaches the process for regenerating a touch curve data under various touch setting points and calculation of the corresponding velocities. See col. 5, lines 15-43 and lines 50-65. Furthermore, Kitamura teaches the panel switches (11) having a curve setting section (11a), which has various switches (SW) such as mode switches for selecting the desired mode. See col. 3, lines 60-68, col. 4, lines 1-4 and Fig. 4.

Kitamura does not specifically teach "a correction coefficient generator which generates a correction coefficient composed of a ratio of one of the velocity values corresponding to one of

touch data generated by keyboard under predetermined operation mode to a maximum value of velocity values However, Kitamura teaches determination of velocity data value VELO (LOOCNT) by interpolation in various ways (S52, S54, S56, S57 as shown in Fig. 11). Kitamura also teaches the determination of the maximum velocity value, Vmax of the touch curve as shown in col. 5, lines 35-43.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Kitamura's velocity, VELO and maximum velocity, Vmax for the purpose of touch curve data regeneration. One would have been motivated in view of Kitamura that simply dividing the velocity, VELO by the maximum velocity, Vmax is mathematically and functionally equivalent to the desired correction coefficient.

Regarding claims 6 and 16, in addition to what has been described above, Kitamura teaches a curve memory for storing conversion curve data defined by polygonal line, and an interpolation means which takes into account average value data, a predetermined tone level and certain calculation the result of which is a calculated correspondence as the conversion data in the curve memory. It would have been obvious that the interpolation means equivalently provides the desired scenario of correction value becoming the predetermined value. See col. 52-55, 65-68 and col. 2, lines 1-5.

Regarding claims 3, 13 and 17, Kitamura teaches the use of storage (S26) as well as a processing for generating touch curve data including determination of velocities by interpolation (S52, S54, S56, S57) under various scenarios. See Fig 6 & 11.

Regarding claims 4, 7-8, 10, 14, 18 and 20, Kitamura teaches key depressions and the strength associated with depressions at average, lower than average and higher average values. See Fig (8-10).

Regarding claims 9 and 19, Kitamura teaches the use of storage (S26) as well as a new touch curve data, VELO, which is generated on the basis of average data touch. See col. 4, lines 45-49, Fig. 6 and Fig. 11.

Regarding claim 21, Kitamura teaches an electronic musical instrument where a response of the tone generation volume corresponds to the touch level of the keyboard (col. 1, lines col. 11-16), and discloses a tone generator (12), which includes, among others duration based on the tone control signal. See Fig. 3 and col. 3, lines 51-59. It would have been obvious that the tone generator (12) with associated responses as configured in Fig. 3 perform the desired functions of the sensors.

Regarding claims 23-25, Fujiwara teaches an interpolation formula (4) used in equation (4) where Vmax and ff are respectively the maximum velocity value of the curve and the maximum value of the data. See Fig. 5 (S7). See col. 5, lines 32-43

Claims 22 and 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura in view of Fujiwara et al. (USPN 6075196).

Regarding claims 22 and 26, Kitamura has been discussed above. However, Kitamura does not the use of correction curve with respect to a "single keying power". Fujiwara on the other hand teaches a relationship between a key velocity and a string-striking velocity such that

white points represents results of relationship between the key velocity and the string–striking velocity with respect to a single–hit performance technique. See Fig. 5 and col. 9, lines 35-42.

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify Kitamura's musical keyboard instrument to adapt Fujiwara's single-hit performance. One would have been motivated in view of the suggestion in Fujiwara that the single hit performance technique as represented in Fig. 5 is equivalent to the desired "single keying power". The use of a single hit performance technique helps function an electronic musical instrument more effectively as taught by Fujiwara.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

4. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulselam** whose telephone number is **(703) 305-8591.** The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709.**

Any response to this action should be mailed to:

Commissioner of patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Abbas Abdulselam

Examiner

Art Unit 2674

March 20, 2004

XIAO WU
PRIMARY EXAMINER